

U.S. Application No.: NEW
PRELIMINARY AMENDMENT

Attorney Docket: 3926.124

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Original) A particle for use in selective laser sintering (SLS), including

- a core (1) formed from at least one first material,
- an at least partial coating (2) of the core (1) with a second material,

the second material having a lower softening point than the first material,

wherein the softening point of the second material is lower than approximately 70°C.

2. (Original) The particle as claimed in claim 1, wherein the coating (2) contains a polymer, preferably a thermoplastic polymer.

3. (Original) The particle as claimed in claim 2, wherein the coating (2) contains a polyvinyl acetal, preferably a polyvinyl butyral.

4. (Currently amended) The particle as claimed in claim 1 ~~one of the preceding claims~~, wherein the coating (2) is not hygroscopic, and is preferably hydrophobic.

5. (Currently amended) The particle as claimed in claim 1 ~~one of the preceding claims~~, wherein the core (1) contains at least one element selected from the group of materials consisting of metal, ceramic, polymer.

6. (Original) The particle as claimed in claim 5, wherein the core 1 includes at least two parts selected from the group of materials consisting of metal, ceramic, and polymer, loosely or securely joined.

7. (Original) A process for producing a three-dimensional object by means of SLS, which includes the following steps:

- application of a layer of particles to a target surface,
- irradiation of a selected part of the layer, corresponding to a cross section of the object, using an energy beam, so that the particles are joined in the selected part,
- repetition of the application and irradiation steps for a plurality of layers, so that the joined parts of the adjacent layers combine to form the object,

wherein

- particles which contain at least one material whose softening point is lower than approximately 70°C are used.

8. (Currently amended) The process as claimed in claim 7, wherein particles ~~as claimed in one of Claims 1 to 6~~ are used comprising

- a core (1) formed from at least one first material,

- an at least partial coating (2) of the core (1) with a second material,

the second material having a lower softening point than the first material,

wherein the softening point of the second material is lower than approximately 70°C.

9. (Currently amended) The process as claimed in claim 7 ~~or 8~~, wherein at least the particle layer which is to be irradiated in each case is additionally heated prior to irradiation with the energy beam, preferably to a temperature level of approx. 2 - 3°C below the lowest softening point of the particle materials used.

10. (Currently amended) An object formed from joined particles, ~~wherein that it has been produced from particles as claimed in one of claims 1 to 6 and/or in that it has been produced by means of a process as claimed in one of claims 7 to 9~~ the particles comprise

- a core (1) formed from at least one first material,

- an at least partial coating (2) of the core (1) with a second material,

the second material having a lower softening point than the first material,

wherein the softening point of the second material is lower than approximately 70°C,

and/or wherein the object is formed by a process which

includes the following steps:

- application of a layer of particles to a target surface,
- irradiation of a selected part of the layer, corresponding to a cross section of the object, using an energy beam, so that the particles are joined in the selected part,
- repetition of the application and irradiation steps for a plurality of layers, so that the joined parts of the adjacent layers combine to form the object,

wherein

- particles which contain at least one material whose softening point is lower than approximately 70°C are used.

11. (new) The process as claimed in claim 7, wherein coating (2) contains a polymer, preferably a thermoplastic polymer.

12. (new) The process as claimed in claim 11, wherein the coating (2) contains a polyvinyl acetal, preferably a polyvinyl butyral.

13. (new) The process as claimed in claim 7, wherein the coating (2) is not hygroscopic, and is preferably hydrophobic.

14. (new) The process as claimed in claim 7, wherein the core (1) contains at least one element selected from the

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group of materials consisting of metal, ceramic, polymer.

15. (new) The process as claimed in claim 14, wherein, wherein the core 1 includes at least two parts selected from the group of materials consisting of metal, ceramic, and polymer, loosely or securely joined.